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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,128	03/08/2005	Ryuichi Katayama	P/2108-40	3100
2352	7590	08/11/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			RIVERO, MINERVA	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/527,128

Applicant(s)

KATAYAMA, RYUICHI

Examiner

Minerva Rivero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

2. Claim 8 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/19/06.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 3-6 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 3-6 and 11, 'arrow aberration' is not defined in Applicant's Specification as to what it relates to. Hence, the detection of the arrow aberration is not understood, not its correction as claimed. There would be undue experimentation to make and use the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7, 9-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe *et al.* (US 6,084,843), hereinafter Abe.

7. Regarding claims 1,2 and 12, Abe discloses an optical head device comprising: a light source; an objective lens for focusing light emitted from this light source onto an optical recording medium (Col. 6, Lines18-21);

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a photodetector for detecting light reflected off said optical recording medium
(Col. 6, Lines 63-64);

and one or more aberration correction optical elements which are disposed within a path of said light between said light source and said objective lens, and correct aberration of said light generated within that path, wherein said one or more aberration correction optical elements are selected from amongst a plurality of different aberration correction optical elements, in accordance with said aberration (*correcting a coma aberration*, Col. 6, Lines 26-28; *correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see Fig. 13; Col. 8, Lines 34-38).

8. Regarding claims 2 and 13, Abe discloses the plurality of different aberration correction optical elements provide correction for mutually different types, signs, and quantities of aberration (*correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see sign changes in Fig. 13; *correcting a coma aberration*, Col. 6, Lines 26-28; Col. 8, Lines 34-38; *large aberration*, Col. 15, Lines 14-16).

9. Regarding claim 3, Abe discloses the aberration is one type of aberration selected from coma, spherical aberration, astigmatism, and arrow aberration, a single aberration correction optical element is placed within the path of said light, and the single aberration correction optical element corrects said one type of aberration (*astigmatism*, Col. 9, Lines 14-18; *correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see Fig. 13; *correcting a coma aberration*, Col. 6, Lines 26-28; Col. 8, Lines 34-38).

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10. Regarding claim 4, Abe discloses the aberration includes two types of aberration selected from coma, spherical aberration, astigmatism, and arrow aberration, two aberration correction optical elements are placed within the path of said light, and one of the two aberration correction optical elements corrects one of said two types of aberration, while another of said two aberration correction optical elements corrects another of said two types of aberration (*holographic optical element (HOE) 25 is optimized to cancel coma and spherical aberration*, Col. 8, Lines 19-23 and 36-38; *astigmatism*, Col. 9, Lines 14-18; *correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see Fig. 13; *correcting a coma aberration*, Col. 6, Lines 26-28; Col. 8, Lines 34-38).

11. Regarding claim 7, Abe discloses at least one of a light incident surface and a light exit surface of said aberration correction optical element is a stepped surface comprising at least 2 steps (Col. 6, Lines 32-42, see Fig. 12A, element 25).

12. Regarding claim 9, Abe discloses the aberration includes coma, and an aberration correction optical element placed within the path of said light is installed so that a direction of aberration corrected by the aberration optical element substantially matches a direction of said coma (*moving the optical head*, Col. 7, Lines 16-24; *HOE 25 is optimized to cancel the coma aberration*, Col 8, Lines 19-23).

13. Regarding claim 10, Abe discloses the aberration includes astigmatism, and an aberration correction optical element placed within the path of said light is installed so that a direction of aberration corrected by the aberration correction optical element substantially matches a direction of said astigmatism (*moving the optical head*, Col. 7, Lines 16-24).

14. Regarding claim 11, Abe discloses the aberration is arrow aberration, and an aberration correction optical element placed within the path of said light is installed so that a direction of aberration corrected by the aberration correction optical element substantially matches a direction of said arrow aberration (*astigmatism*, Col. 9, Lines 14-18; *correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see Fig. 13; *correcting a coma aberration*, Col. 6, Lines 26-28; Col. 8, Lines 34-38).

15. Regarding claim 14, Abe discloses the step of installing said one or more aberration correction optical elements within the optical system comprises the step of rotating said aberration correction optical element, using an optical axis of said light as a rotational axis, so that a direction of aberration corrected by said aberration correction optical element matches a direction of aberration generated within the path of said light (Col. 9, Lines 43-49; *moving the optical head*, Col. 7, Lines 16-24).

16. Regarding claim 15, Abe discloses an optical information recording and/or playback apparatus comprising:

a first circuit for driving said light source (Col. 13, Lines 8-12);
a second circuit for generating a playback signal and an error signal based on an output signal from said photodetector (Col. 6, Line 63 – Col. 7, Line 9);
and a third circuit for controlling a position of said objective lens based on said error signal (Col. 7, Lines 15-19).

17. Regarding claim 16, Abe discloses the first circuit is for driving said light source in accordance with a recording signal (*recording apparatus*, Col. 6, Lines 16-17).

18. Regarding claim 17, Abe discloses the first circuit is for driving said light source with a constant output (*reproducing apparatus*, Col. 6, Lines 16-17).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US in view of Applicant's own admitted prior art.

21. Regarding claims 5 and 6, Abe discloses having two optical elements, each correcting one type of aberration (*holographic optical element (HOE) 25 is optimized to cancel coma and spherical aberration*, Col. 8, Lines 19-23 and 36-38; *astigmatism*, Col. 9, Lines 14-18; *correcting a spherical aberration*, Col. 5, Lines 10-11, Col. 9, Lines 45-54, see Fig. 13; *correcting a coma aberration*, Col. 6, Lines 26-28; Col. 8, Lines 34-38) but does not disclose the aberration includes three/four types of aberration selected from coma, spherical aberration, astigmatism, and arrow aberration, three/four aberration correction optical elements are placed within the path of said light, and of said three aberration correction optical elements, one aberration correction optical element corrects one of said three/four types of aberration, another of said three/four aberration correction optical elements corrects another of said three/four types of aberration, and yet another of said three/four aberration correction optical elements corrects yet another of said three types of aberration, and a fourth aberration correction optical element corrects said arrow aberration.

However, Applicant's admitted prior art discloses as conventional an aberration correction device including a plurality of optical elements (see Specification, Background Art, Page 7, Lines 1-21).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Abe by having the aberration include three types of aberration selected from coma, spherical aberration, astigmatism, and arrow aberration, and three aberration correction optical elements placed within the path of said light, and of said three aberration correction optical elements, one

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aberration correction optical element corrects one of said three types of aberration, another of said three aberration correction optical elements corrects another of said three types of aberration, and yet another of said three aberration correction optical elements corrects yet another of said three types of aberration, as suggested in Applicant's admitted prior art, in order to control the aberration caused by the aberration correction device by appropriately positioning the various optical elements.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagano (US 6,014,359) discloses an optical head with a polarizing diffractive element.

Ogasawara *et al.* (US 6,151,154) disclose an aberration correction unit.

Yasuda *et al.* (US 2002/0150016) disclose an optical disk apparatus with a predetermined quantity of spherical aberration correction.

Shimano *et al.* (US 5,889,748) disclose an object lens and optical head for reproducing data from optical disks in different thickness of substrate.

Yagi (US 5,808,999) discloses an optical pickup apparatus including methods of correcting comatic aberration and astigmatism.

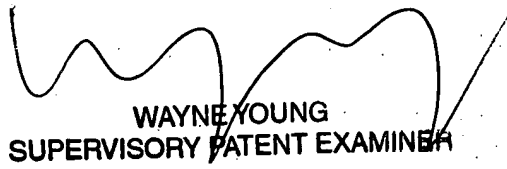
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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 7/24/06



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER